查询HRD05003供应商

SHINDENGEN ELECTRIC MFG. CO., LTD. New-ohtemachi Bldg. 2-2-1 Ohtemachi
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HRD05003

Specifications

1. Maximum ratings

Input Voltage	0 to 50 VDC	
Remote On/Off Terminals Impressed Voltage	0 to Vin-2V	
Operating Ambient Temperature	-10°C to 80°C	Refer to the Derating Chart (Fig. 2)
Storage Temperature	-30°C to 100°C	
Operating Surface Temperature	Max. 100°C	

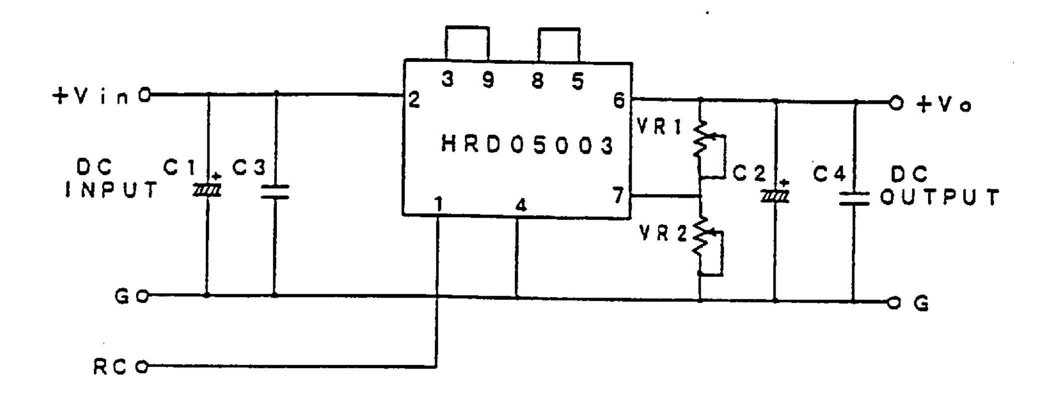
2. Characteristics (at 25°C)

Input			
Voltage Range		8 to 40VDC	
Efficiency		80%(Avr.) 73%(Min.)	Vin = 24V, Io = 3A
Operating Frequency		240 to 360 kHz	Vin = 24V, Io = 3A
Output			
Regulation		4.8V to 5.3V	Note 1
Deviation from Output Voltage Setting Point (at 5V)		4.82 to 5.18V	Vin = 24V, Io = 3A
Output Voltage Fluctuation	Line	38mV	Vin = 8V to 40V
	Load	95mV	Io = 0A to 3A
	Temp. drift coefficient	±0.33 mV/°C	
Output Current		0A to 3A	
Ripple and Noise		25(Avr.) 60(Max.)mVp-p	Vin = 24V, Io = 3A (Note 2)
Variable Output Voltage Range		3.3V to 24V	Using recommended external parts (Note 3)
Remote On/Off Control Voltage			
Output Power On		Max. 0.9V	
Output Power Off		Min. 1.0V	
Protection			
Over Load Protection		More than 3A	Auto reset
Humidity			
Operating		20% to 90%	Non-condensing
Storage		10% to 95%	Non-condensing
Others			
Weight		25g	
Vibration		Amplitude 1.5mm, 10 to 55Hz/min. 2 hours each for X, Y, Z directions	
Shock		100G, 3 times each for X, Y, Z directions	
Soldering Conditions		260°C, 10 sec.	
Dimensions		Refer to the outline drawing	

Note 1: The value includes the deviation from output voltage setting point, line and load.
Note 2: Value at standard connection with recommended external parts (Refer to Fig.1)
Note 3: Refer to "Output voltage variation"

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Connection



VR1: Vout Down
VR2: Vout Up

C1: 50V or more, 390 μF or more, ESR 47mΩ or less at 100kHz
C2: 50V or more, 220 μF×2 or more, ESR 85mΩ/2 or less at 100kHz

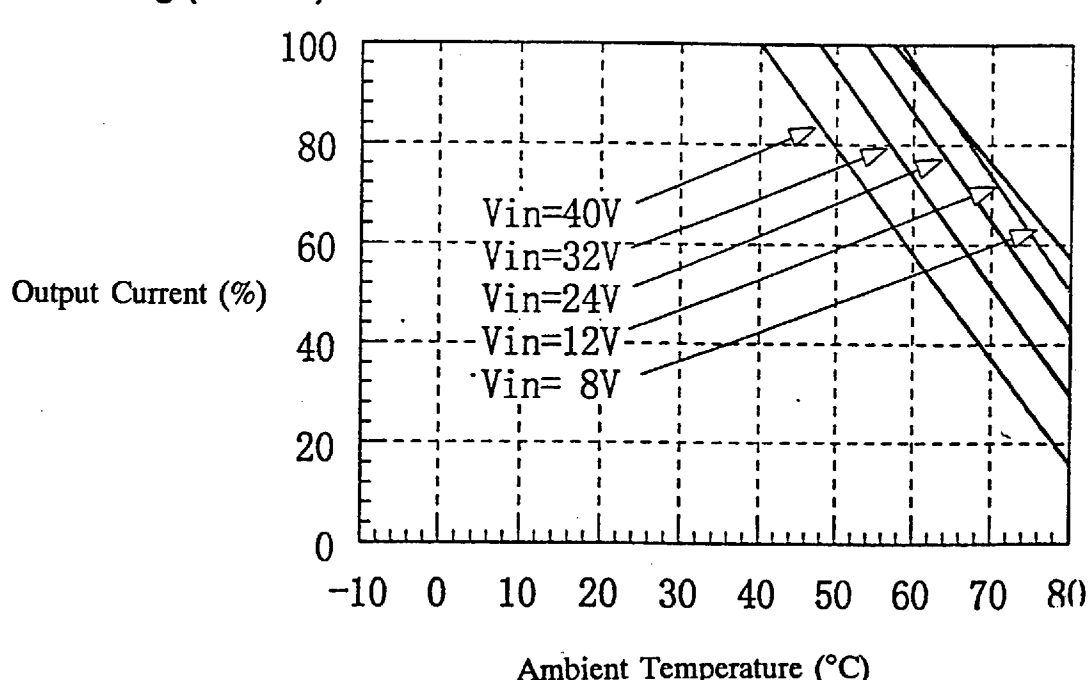
Note 1: Connect the RC terminal to the ground line when not using remote on/off.

Note 2: The VADJ terminal should be open when not changing the output voltage.

Note 3: Connect a film or ceramic capacitor at the C3(50V 0.1 – 1μF) and C4(50V 0.01 – 0.1μF) when the noise is high.

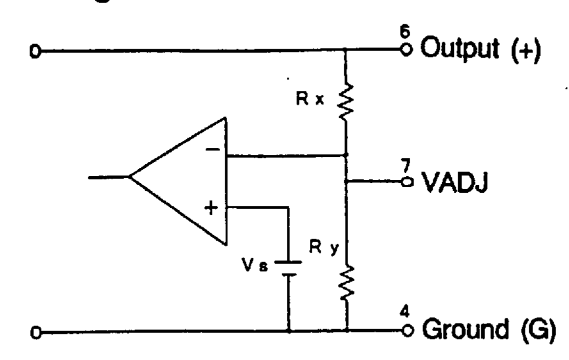
Note 4: Connect the input and output capacitors as near the terminals as possible.

Derating (Vo = 5V)



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Output voltage variation



Vs	2.5V
Rx	6.2kΩ
Ry	6.2kΩ
Vo	Required output voltage(V)

The value of the resister is calculated by following formula.

a. Vout down: Connect a resistor VR1 between the terminal 6 and the terminal 7. Do not connect VR2.

$$VR1=\frac{Rx * Ry(Vo - Vs)}{Rx * Vs-Ry(Vo-Vs)}$$

b. Vout up: Connect a resistor VR2 between the terminal 4 and the terminal 7. Do not connect VR1.

$$VR2=\frac{Rx * Ry * Vs}{Ry(Vo-Vs)- Rx*Vs}$$

Note 1: Output voltage deviation

When the resister's stability is +/- 1% : approximately +/- 4.5%
When the resister's stability is +/- 5% : approximately +/- 8%

Note 2: The temperature at surface of the case should be less than 100°C when operating.

Note 3: A certain voltage difference between input and output is required. The minimum required voltage difference can be calculated by following formula.

$$Vin = \frac{Vo + K}{D}$$

Vin	Minimum DC input voltage (V)
Vo	Required output voltage(V)
D	0.85(Max. duty)
K	0.8(factor)

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Others

Do not use a IC connector to the ground terminal No. 4. When the connector opens, the DC/DC converter will be broken.